



## TRACKING ERROR SIGNAL ANALYSIS

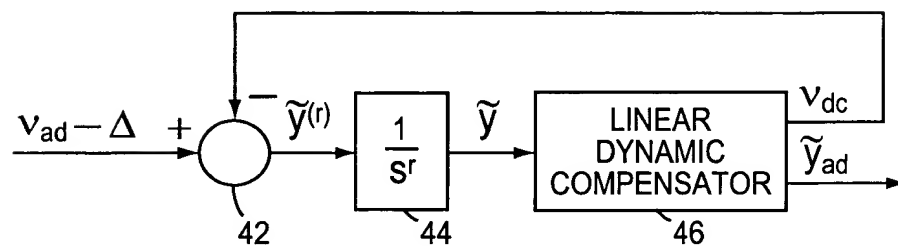


FIG. 2

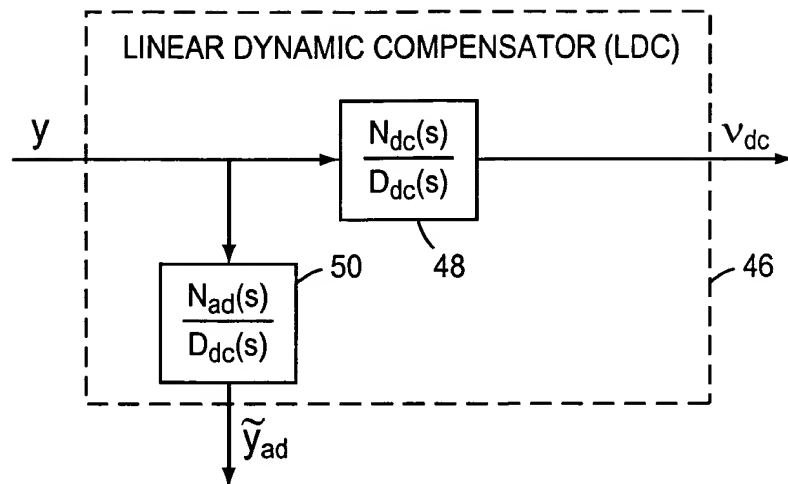


FIG. 3

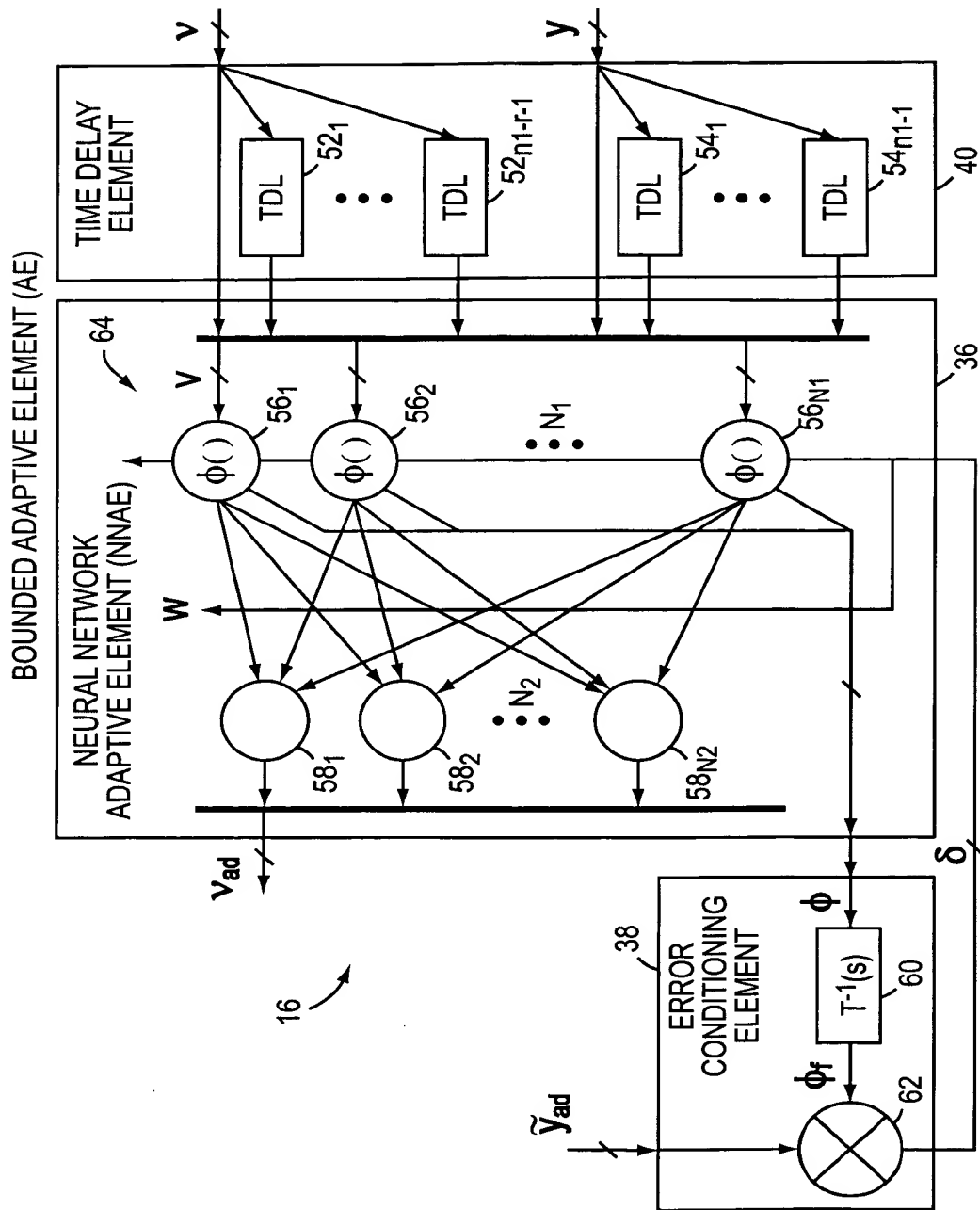


FIG. 4

PROCESSOR-BASED ADAPTIVE CONTROL SYSTEM  
USING DIRECT OUTPUT FEEDBACK

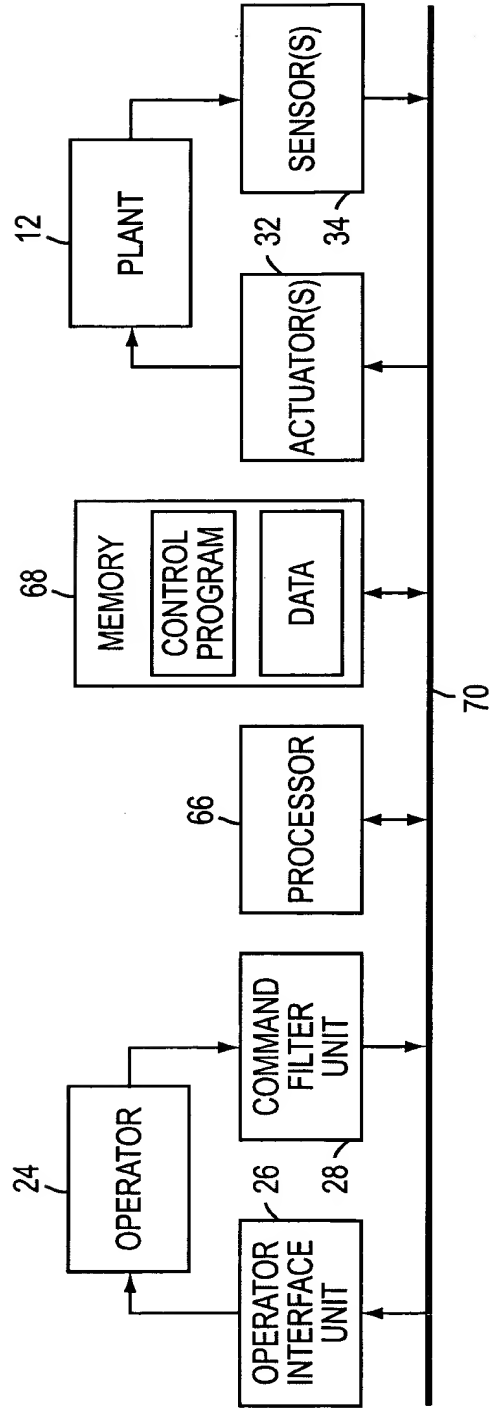


FIG. 5

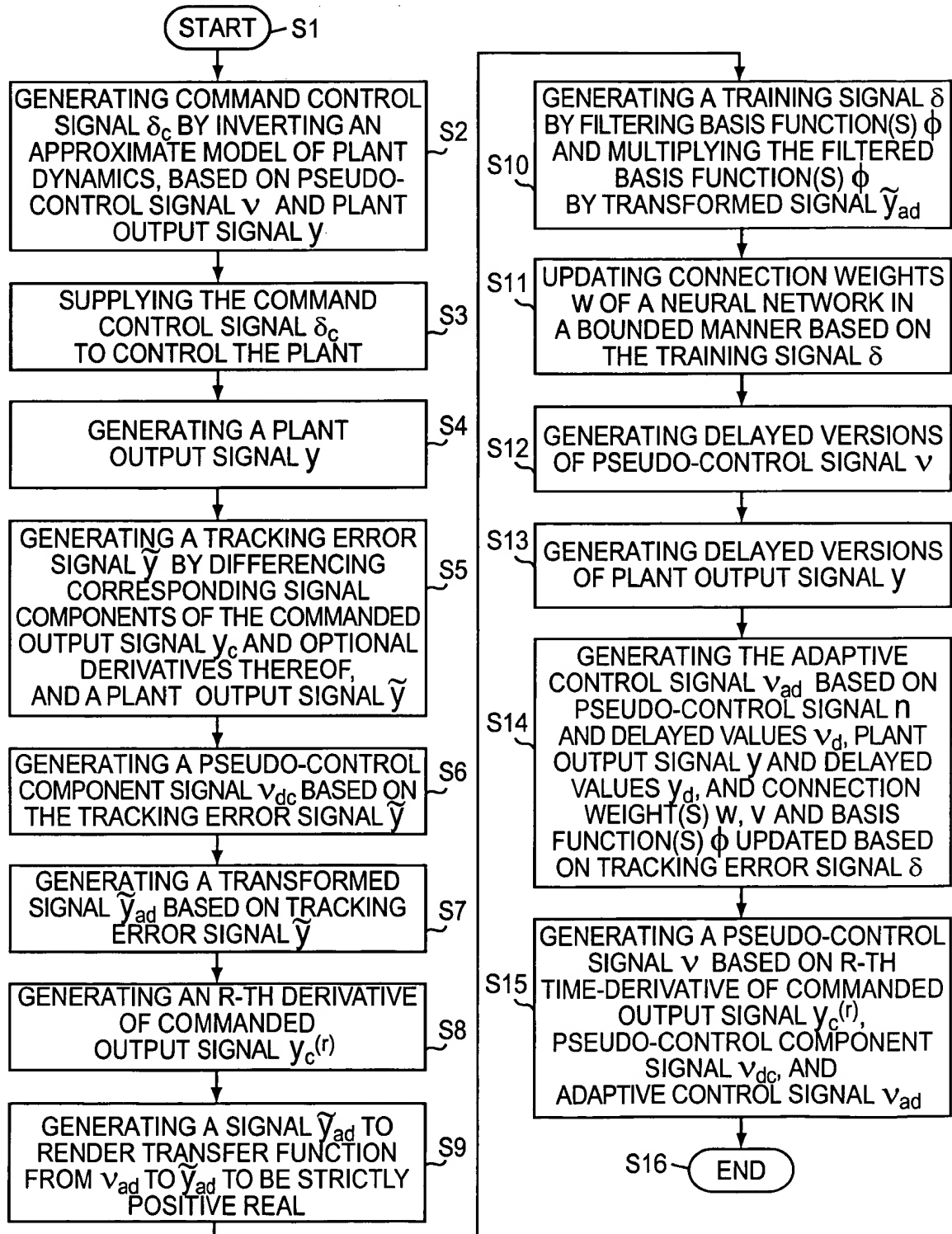
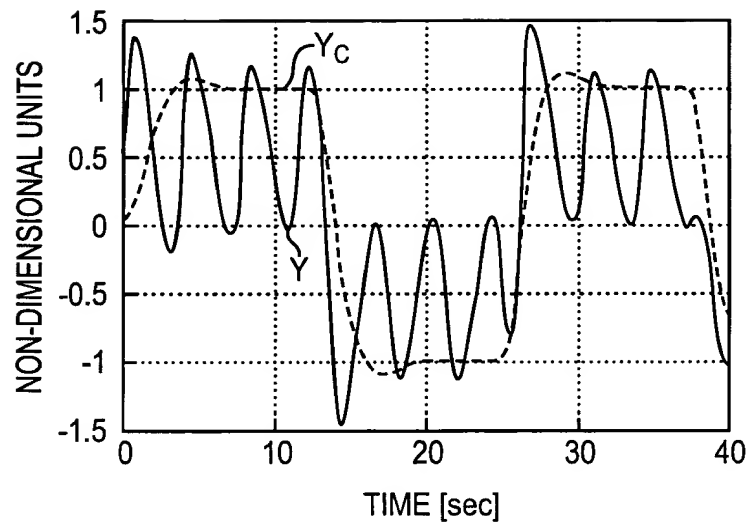


FIG. 6

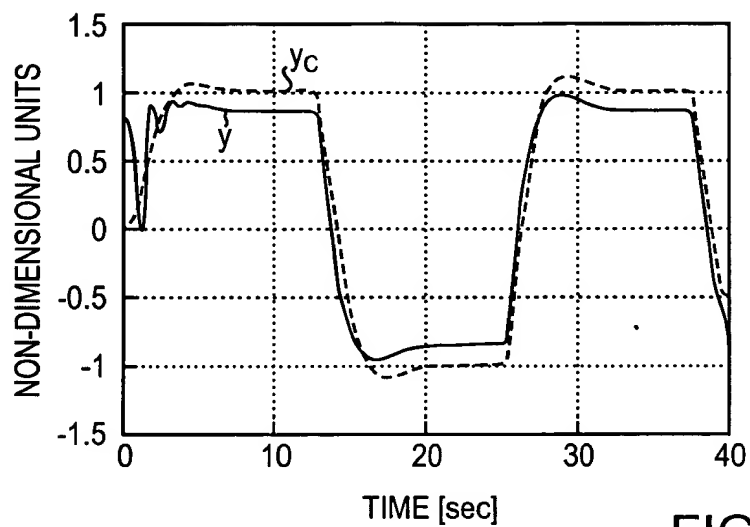
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SYSTEM WITHOUT UNMODELLED DYNAMICS:  
RESPONSE WITH LINEAR COMPENSATOR

FIG. 7

## SYSTEM WITHOUT UNMODELLED DYNAMICS AND NN CONTROLLER



(a) SYSTEM TRACKING

FIG. 8A

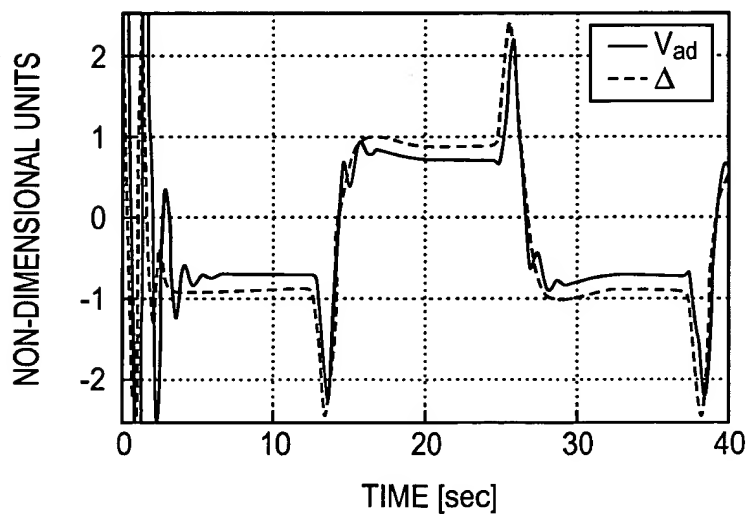
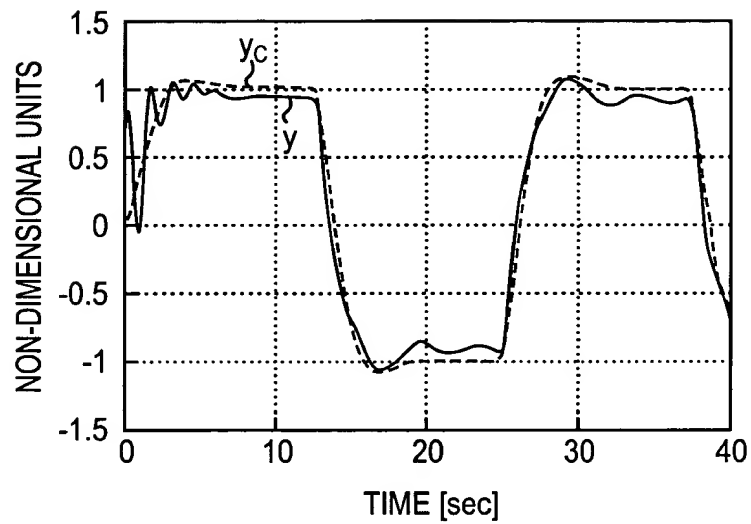
(b) NN OUTPUT  $V_{ad}$  AND INVERSION ERROR  $\Delta$ 

FIG. 8B



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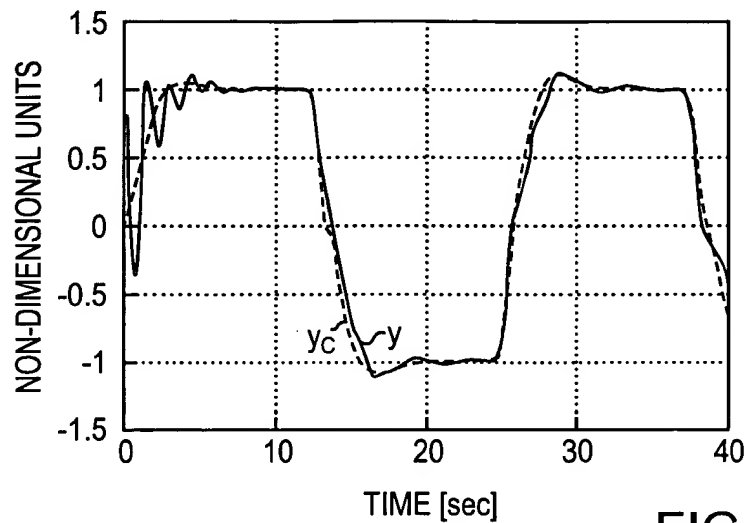


SYSTEM WITH UNMODELLED DYNAMICS:  
RESPONSE WITH NN CONTROLLER

FIG. 9

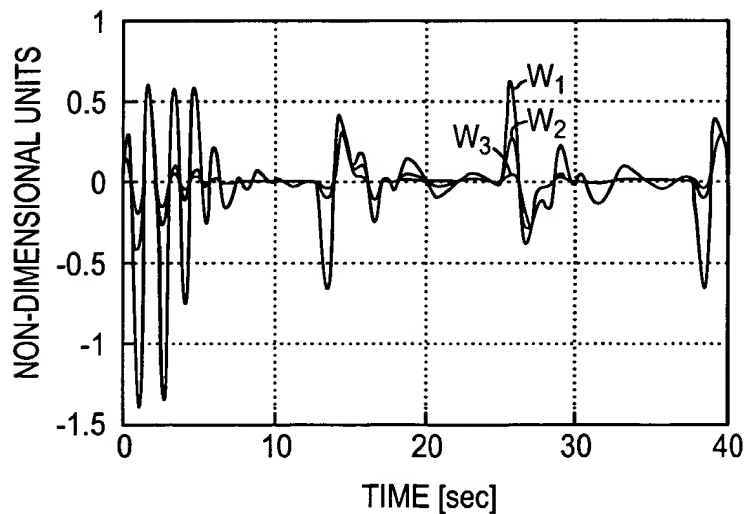
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SYSTEM WITH UNMODELLED DYNAMICS:  
RESPONSE WITH NN CONTROLLER AND LINEAR COMPENSATOR



(a) SYSTEM TRACKING

FIG. 10A



(b) NN WEIGHT HISTORY

FIG. 10B